

REMARKS

This application contained claims 1-42, as filed. Claims 21, 26, 27 and 33 have been canceled and new claims 43-46 were added. This response cancels claims 1-33 and claim 46 without prejudice in view of the Restriction Requirement which has been made final. Claims 34-45 are now in this case.

Restriction Election Restriction Requirement

Applicant confirms election of the Group IV claims (claims 34-42) and notes that the restriction requirement has been made final.

Amendment of the Claims

Claims 1-33 and 46 are canceled without prejudice in view of the Restriction Requirement.

The Rejections

Claims 34-36 and 39-41 are rejected under 35 U.S.C. 103(a) as unpatentable over Teeri et al. Applicant respectfully traverses this rejection.

Teeri et al. is characterized as teaching that xyloglucan polymers can be chemically and/or enzymatically modified to contain a wide range of different chemical groups and that such chemically modified xyloglucan polymers can be used as an interface for introducing new chemical groups onto cellulosic fiber surfaces. Teeri et al. is also said to teach a method of modifying polymeric carbohydrate materials using a carbohydrate polymer fragment comprising a chemical group with functionality. Further it is said that Teeri et al. teaches that XGO comprising a chemical group can be obtained by hydrolysis with endoglucanase.

The Office Action further states: Teeri et al. do not particularly teach the attachment of conjugates to xyloglucan polymer prior to the hydrolysis of the polymer to obtain xyloglucan conjugate. The rationale for the rejection is given as follows: "it would have been obvious for the person of ordinary skill in the art, at the time the invention was

made to, to attach a chemical group to xyloglucan polymer first and then hydrolyze xyloglucan polymer to obtain xyloglucan conjugate." Referring to *In re Burhans*, 154, F. 2d 690, 69 USPQ 330 (CCPA 1946), the Office Action indicates that the selection of order of performing process steps is prima facie obvious in the absence of new or unexpected results. Referring to *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930), the Office Action compares the issue to the selection of order of mixing ingredients which is said to be prima facie obvious.

Claim 34 from which all remaining claims depend requires first attaching one or more functional groups to the side chains of xyloglucan polymers to form modified xyloglucan polymers and thereafter hydrolyzing the modified xyloglucan polymers to form the xyloglucan conjugates. In contrast, Teeri et al. appears to first hydrolyze xyloglucan followed by functionalization of the xyloglucan fragments and perhaps further reaction to make the CLMs (carbohydrate linker molecules). The distinct between the invention as claimed and the teaching of Teeri et al. is however not simply a change in order of the steps. The steps conducted in the claimed method are distinct from those of Teeri et al. The species that is subjected to hydrolysis in the method as claimed is a modified xyloglucan polymer, while in Teeri et al. the species that is subjected to hydrolysis is an unmodified xyloglucan polymer. These two species are structurally and chemically distinct. There is no teaching in Teeri et al. of hydrolysis of a modified xyloglucan as claimed. For example, there is no teaching that a modified xyloglucan could be subjected to hydrolysis to produce any fragment product that retains the modification added in the first step of the process. Applicant would like to point out that the order of mixing non-reactive ingredients most often will not lead to a change in the properties of the mixture prepared, but when the component that are being mixed are reactive chemical species the order of addition of such species can result in significant differences in the chemical nature of the species in the mixture. The steps of the methods as claimed and as disclosed in Teeri et al. are not simply independent steps that may be conducted in any order. The steps result in chemical reactions that involve different reactive species and without further teaching would be expect to result in the production of different products. Thus, because the method of Teeri et al. involves

different enzymatic and chemical reactions compared to the method as claimed in claim 34, Teeri et al. does not make obvious the method as claimed.

In view of the foregoing this rejection should be withdrawn.

Claim 42 is rejected under 35 U.S.C. 103(a) as unpatentable over Teeri et al. in view of Thurl et al. Applicant respectfully traverses this rejection.

As submitted above, Teeri et al does not render the method as claimed in claim 34 obvious. Claim 42 depends from claim 34 and carries its limitations. Thurl et al. is cited as teaching purification of xyloglucan polymer by ultrafiltration. Thurl et al. does not, however, cure the deficiency of Teeri et al. and does not teach the reactions of the species as claimed by Applicant. Thus, claims 42 should not be considered obvious over the cited combination of references and this rejection should be withdrawn.

Claims 37, 38 and 43-45 under 35 U.S.C. 103(a) as unpatentable over Teeri et al. in view of Gorbacheva et al. and Barnabas et al. Applicants respectfully traverse this rejection.

The deficiencies of the Teeri et al reference are noted above. Gorbacheva et al. is characterized as teaching an azo dye molecule having an antimicrobial activity impregnated by chemical bonding to fiber-forming polymers. Barnabas et al. is not characterized in the rejection and the basis of the rejection with respect to Barnabas et al. is not given.

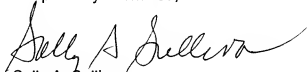
In any event, neither of Gorbacheva et al. or Barnabas et al. cure the deficiencies of Teeri et al. and do not teach the reactions of the species as claimed by Applicant in claim 34 from which are of the rejected claims depend. Applicant further submits that nothing in Gorbacheva et al. or Teeri et al. alone or in any combination teaches that a xyloglucan conjugate containing an antimicrobial agent as in claim 43 can successfully be made by the method as claimed. Thus, claims 37, 38 and 43-45 should not be

considered obvious over the cited combination of references and this rejection should be withdrawn.

CONCLUSION

This application is believed to be in condition for allowance and passage to issuance is respectfully requested. This response is accompanied by a Petition for Extension of Time of Three Months with appropriate fees of \$510 (for a small entity). No excess claims fees are believed to be due. Fees are intended to be paid on EFS submission of this response. If the fees paid on submission are incorrect, please deduct any deficiency and credit any overpayment to deposit account 07-1969.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Sally A. Sullivan", written in a cursive style.

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